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10/073,205	02/13/2002	Song Bor Chen	P67611US0	5285

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EXAMINER	
DAMIANO, ANNE L	

ART UNIT	PAPER NUMBER
2114	

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/073,205	CHEN, SONG BOR	
	Examiner	Art Unit	
	Anne L Damiano	2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/13/02*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-20* is/are rejected.

7)☒ Claim(s) *4* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Objections

2. Claim 5 is objected to because of the following informalities: line 1, "the BIOS in work" lacks antecedent basis. This is interpreted as saying "the BIOS." Appropriate correction is required.

Claim 15 is objected to because of the following informalities: line 1, "the BIOS in work" lacks antecedent basis. This is interpreted as saying "the BIOS." Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3 and 5-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Landry et al (6,732,301) and view of Gharda et al (6,560,702).

Regarding claim 1, Landry discloses a debugging method using a USB (universal serial bus) connecting system for debugging a target PC from a host PC, which comprises the steps of:

Driving a USB interface to connect the target PC *(digital system)* and the host PC *(USB test tool) through the USB connecting system (figure 1: components 132, 124 and 112 and column 2: lines 52-63)*;

Determining a mode of operation of the target PC *(if digital system in diagnostic mode) (column 3: lines 48-50 and lines 60-62)*;

Compiling a program code with the function of outputting a debug signal into data of the BIOS of the target PC *(column 4: lines 51-53 and lines 64-66); (The system interface of the USB diagnostic port can be used for debugging the BIOS in the target PC (column 4: lines 64-66). This means that when the debugging of the BIOS occurs, some form of signal must be sent from the USB test tool to the digital system to indicate that the BIOS is going to be debugged. The program code to send the debug signal (function of the host PC to send a debug signal to the target PC) must have been compiled at some point.)*

Outputting the data through a transmission unit *(column 3: lines 11-15) (The USB diagnostic port allows access to and from the USB diagnostic port, meaning that the internal data is output to the USB diagnostic tool)*; and

Displaying the data on a screen of the host PC *(column 2: lines 64-66).*

Landry discloses determining the mode of operation of the target PC and enabling a diagnostic mode after a system reset *(if digital system in diagnostic mode) (column 3: lines 48-62)*. Landry also discloses the system interface communicating with internal logic of the target PC independent of the operating system. However, Landry does not specifically disclose reading a flow control flag of a BIOS and detecting the value of the flow control flag.

Gharda teaches of a system that determines different modes of operation before the operating system is loaded by checking a flag in the BIOS (column 3: lines 16-24).

It would have been obvious to a person skilled in the art at the time the invention was made to use a flag in the BIOS to indicate when the target PC is in diagnostic mode, making it a flow control flag, in the system taught by Landry. It would have been obvious because Landry teaches of determining a mode of operation independent of an operating system, without disclosing the details of implementation and Gharda teaches a known method of determining a mode of operation independent of the operating system by checking a flag in the BIOS. A person skilled in the art would have understood that Gharda's method of checking a flag in the BIOS is a commonly employed, efficient method of carrying of Landry's determining of mode intention.

As in claim 2, Landry discloses the method of claim 1, wherein the flow control flag is set by a user to have a value selected from 0 and 1 to determine whether debugging should be monitored *(column 2: lines 63-65 and column 3: lines 60-62). (Landry and Gharda disclose the debugging method with the flow control flag above. Flags generally hold a 0 or 1 value. Landry*

also discloses the system including a graphical user interface (column 2: lines 63-65) and the diagnostic mode being entered in response to detection of the USB test tool (column 3: lines 60-62). When diagnostic mode is entered, a GUI allows the user to monitor the debugging. Therefore, when the user plugs in the test tool into the digital system, the flag indicating the mode of operating is changed from a 0 to a 1 or vice versa.)

As in claim 3, Landry discloses the method of claim 1, wherein the data further contain the program code with the function of outputting the debug signal *(column 2: line 65-column 3: line11).*

As in claim 5, Landry discloses the method of claim 1, wherein the BIOS further executes the steps of:

Initializing a USB controller *(USB master)* of the target PC; *(The BIOS generally prepares a computer for operation by initializing the various components.)*

Outputting the data to the host PC through a connecting unit *(USB bus) (column 2: lines 52-63, column 3: lines 11-15 and figure 1: components 132, 124 and 112). (The USB diagnostic port allows access to and from the USB diagnostic port, meaning that the internal data is output to the USB diagnostic tool through a connecting unit.)*

As in claim 6, Landry discloses the method of claim 1, wherein the transmission unit is a USB cable for connecting the host PC and the target PC *(column 3: lines 12-13).*

As in claim 7, Landry discloses the method of claim 1, wherein the host PC further contains a USB port connecting to the USB cable *(figure 1: component 132)*.

As in claim 8, Landry discloses the method of claim 1, wherein the target PC further contains a USB port connecting to the USB cable *(figure 1: component 104)*.

As in claim 9, Landry discloses the method of claim 1, wherein the target PC is a computer system that performs debugging *(column 6: lines 19-25)*.

As in claim 10, Landry discloses the method of claim 1, wherein the host PC is a computer system that monitors the program code with the function of outputting the debug signal *(column 2: line 65-column 3: line 11)*.

Regarding claim 11, Landry discloses a method of debugging using a USB connecting system for debugging a target PC *(digital device)* from a host PC *(USB test tool)*, which comprises the steps of:

Compiling a debug signal and driving a USB interface to connect the target PC and the host PC through the USB connecting system *(column 4: lines 58-60 and figure 1: component 112); (The USB connector is used to connect the USB test tool to the digital system to allow for the test tool to send the digital system debug signals. The debug signals of the test tool must have been compiled at some point.)*

Determining a mode of operation of the target PC *(if digital system in diagnostic mode) (column 3: lines 48-50 and lines 60-62)*;

Outputting the debug signal to data of the BIOS of the target PC *(column 4: lines 51-53 and lines 64-66); (The system interface of the USB diagnostic port can be used for debugging the BIOS in the target PC (column 4: lines 64-66). This means that when the debugging of the BIOS occurs, some form of signal must be sent from the USB test tool to the digital system to indicate that the BIOS is going to be debugged.)*

Outputting the data through a transmission unit *(column 3: lines 11-15); (The USB diagnostic port allows access to and from the USB diagnostic port, meaning that the internal data is output to the USB diagnostic tool)* and

Displaying the data on a screen of the host PC *(column 2: lines 64-66)*.

Landry discloses determining the mode of operation of the target PC *(if digital system in diagnostic mode) (column 3: lines 48-50 and lines 60-62).* However, Landry does not specifically disclose reading a flow control flag and detecting the value of the flow control flag. Gharda teaches of a system that determines different modes of operation before the operating system is loaded by checking a flag in the BIOS (column 3: lines 16-24).

It would have been obvious to a person skilled in the art at the time the invention was made to use a flag to indicate when the target PC is in diagnostic mode, making it a flow control flag, in the system taught by Landry. It would have been obvious because Landry teaches of determining a mode of operation without disclosing the details of implementation and Gharda teaches a known method of determining a mode of operating by checking a flag. A person

skilled in the art would have understood that Gharda's method of checking a flag is a commonly employed, efficient method of carrying of Landry's determining of mode intention.

As in claim 12, Landry discloses the method of claim 11, wherein the flow control flag is set by a user to have a value selected from 0 and 1 to determine whether debugging should be monitored *(column 2: lines 63-65 and column 3: lines 60-62). (Landry and Gharda disclose the debugging method with the flow control flag above. Flags generally hold a 0 or 1 value. Landry also discloses the system including a graphical user interface (column 2: lines 63-65) and the diagnostic mode being entered in response to detection of the USB test tool (column 3: lines 60-62). When diagnostic mode is entered, a GUI allows the user to monitor the debugging. Therefore, when the user plugs in the test tool into the digital system, the flag indicating the mode of operating is changed from a 0 to a 1 or vice versa.)*

As in claim 13, Landry discloses the method of claim 11, wherein the data further contain the debug signal *(column 2: lines 63-65). (Testing software includes the debug signals.)*

As in claim 14, Landry discloses the method of claim 11, wherein if the flow control flag indicates not to perform debugging in the step of detecting the value of the flow control flag, the target PC does not output the debug signal *(column 3: lines 56-62). (If the digital system is not in diagnostic mode, debug signals will not be sent.)*

As in claim 15, Landry discloses the method of claim 11, wherein the BIOS further executes the steps of:

Initializing a USB controller *(USB master)* of the target PC; *(The BIOS generally prepares a computer for operation by initializing the various components.)*

Outputting the data to the host PC through a connecting unit *(USB bus) (column 2: lines 52-63, column 3: lines 11-15 and figure 1: components 132, 124 and 112). (The USB diagnostic port allows access to and from the USB diagnostic port, meaning that the internal data is output to the USB diagnostic tool through a connecting unit.)*

As in claim 16, Landry discloses the method of claim 11, wherein the transmission unit is a USB cable for connecting the host PC and the target PC *(column 3: lines 12-13).*

As in claim 17, Landry discloses the method of claim 11, wherein the host PC further contains a USB port connecting to the USB cable *(figure 1: component 132).*

As in claim 18, Landry discloses the method of claim 11, wherein the target PC further contains a USB port connecting to the USB cable *(figure 1: component 104).*

As in claim 19, Landry discloses the method of claim 11, wherein the target PC is a computer system that performs debugging *(column 6: lines 19-25).*

As in claim 20, Landry discloses the method of claim 11, wherein the host PC is a computer system that monitors the program code with the function of outputting the debug signal *(column 2: line 65-column 3: line11)*.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne L Damiano whose telephone number is (571) 272-3658. The examiner can normally be reached on M-F 9-6:30 first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SCOTT BADERMAN
PRIMARY EXAMINER